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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/815,858 | 04/02/2004 | Eric F. Bryan | 66396-135 | 9854 |

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EXAMINER

GUADALUPE, YARITZA

ART UNIT PAPER NUMBER

2859

DATE MAILED: 04/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

| | | | |
|------------------------------|---|---------------------------------------|--|
| Office Action Summary | Application No. 10/815,858 | Applicant(s) BRYAN, ERIC F. | |
| | Examiner Yaritza Guadalupe McCall | Art Unit 2859 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 February 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-17 and 19-23 is/are pending in the application.
- 4a) Of the above claim(s) 7-15 and 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-6,16,17 and 19-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

In response to Request for Reconsideration filed February 16, 2006

Election/Restrictions

1. Applicant's election without traverse of claims 7 – 15 and 21 - 23 in the reply filed on February 16, 2006 is acknowledged.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 3, 5 – 6, 16 – 17 and 19 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over Pelta (US 4,138,825) in view of Babala (US 6,792,792).

With respect to claims 1 and 16, Pelta suggests a method for measuring a wheel alignment angle, the method comprising the step of attaching to a wheel a measurement head (46) including an accelerometer (See Column 6, lines 15 – 19); and measuring, with the accelerometer, a wheel angle with respect to gravity, and a computing device (50) operatively coupled to the measurement head and configured to receive the wheel angle and to compute a wheel alignment parameter based on the wheel angle.

However, Pelta fails to explicitly teach the accelerometer being that of a micro-electromechanical accelerometer (MEMS) as stated in claims 1 and 16.

Nonetheless, it would have been obvious to one having ordinary skill in the art armed with said teaching to interpret the accelerometer of Pelta as a “micro-electromechanical accelerometer” as claimed. The motivation being that the secondary teaching of Babala teaches that a “micro-electromechanical accelerometer” comprises micro-machined mechanical components and integrated support electronics. Thus, since the accelerometer of Pelta is placed within the measuring head (46), the accelerometer will have “micro-machined mechanical components” and “integrated support electronics” in order for the measuring head (46) of the size explicitly taught, to operate properly.

Pelta does not disclose the accelerometer being particularly a solid proof mass as stated in claims 3 and 19.

With respect to the accelerometer including a solid proof mass as stated in claims 3 and 19 : The use of the particular type of accelerometer claimed by applicant, i.e., solid proof mass, absent any criticality, is considered to be nothing more than a choice of engineering skill, choice or design because 1) neither non-obvious nor unexpected results, i.e., results which are different in kind and not in degree from the results of the prior art, will be obtained as long as an accelerometer is provided for purposes of measuring a wheel alignment parameter as already suggested by Pelta and Babala, 2) the accelerometer claimed by Applicant and the accelerometer used by Pelta and Babala are well known alternate types of accelerometers which will perform the same function, if one is replaced with the other, of measuring a wheel alignment parameter, and 3) the use of the particular type of accelerometer by Applicant is considered to be nothing more than the use of one of numerous and well known alternate types of accelerometers that a person having ordinary skill in the art would have been able to provide using routine experimentation in order to measure a wheel alignment parameter as already suggested by Pelta and Babala.

In regards to claim 5, Pelta also discloses a method and apparatus further comprising the step of calculating, by a computing device (50), at least one wheel alignment parameter based on the measured angle, i.e., camber and toe, run-out, etc.

Regarding claim 6, Pelta further teaches a method and apparatus wherein the wheel alignment parameter includes at least one of toe, camber, and steering axis inclination (See Columns 7 and 8, lines 17 – 44 and 13 – 27 respectively).

Regarding claim 17, Pelta further teaches a system wherein the wheel alignment parameter includes at least one of toe, camber, and steering axis inclination (See Columns 7 and 8, lines 17 – 44 and 13 – 27 respectively).

4. Claims 4 and 20 are finally rejected under 35 U.S.C. 103 (a) as being unpatentable over Pelta (US 4,138,825) in view of Babala (US 6,792,792), as applied to claims 1, 3, 5 – 6, 16 – 17 and 19 above, and further in view of Gaitan et al. (US 6,171,880).

Pelta and Babala disclose a method and apparatus for wheel angle measurement as stated in paragraph 3 above.

Pelta does not disclose the accelerometer measuring internal changes in heat transfer as stated in claims 4 and 20.

In regards to claims 4 and 20 : Gaitan et al. discloses a method of manufacturing convective accelerometers and tilt sensor devices, provided with thermocouples and integrated circuits so as to provide accelerometers for measuring internal changes in heat transfer caused by acceleration (See Column 4, lines 42 – 55) in order to increase the efficiency of the sensors by compensating for thermal parameters. Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to replace the accelerometer provided by Pelta with a convective accelerometer that compensates for thermal parameters as taught by Gaitan et al. in order to increase the efficiency of the sensors and prevent from possible damages to vehicles that may result in critical failures if not corrected.

Response to Arguments

5. Applicant's arguments filed February 16, 2006 have been fully considered but they are not persuasive.

With respect to the Pelta reference, Applicant argues that “the Examiner is contending that Pelta inherently teaches a MEMS accelerometer” and further adds that “it is well established the fact that a certain characteristic may be present in the prior art is not sufficient to establish the inherency characteristic”. This argument is not persuasive. It is pointed out that the Examiner never contended that the accelerometer of Pelta is inherently a MEMS accelerometer. If so, the rejection would have been applied under 35 USC 102 and not under 35 USC 103. The examiner

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simply contended that the teachings of Pelta in view of Babala suggest a micro-electromechanical accelerometer.

Applicant also argues that the Examiner did not offer any support for the conclusion that “the accelerometer will have micro-machined mechanical components and integrated support electronics in order for the measuring head (46) of the size explicitly taught to operate properly” and that the Office Action implies Pelta’s measuring head being small without pointing out any passage of Pelta disclosing the dimensions of its measuring head. This argument is not persuasive. As shown in Figure 1 of Pelta and as indicated in the Office Action, the measuring head (46) of Pelta houses an accelerometer (See Column 6, lines 15 – 19) and other electrical components, which provides support to the assumption that the accelerometer is small since is contained within the measuring head’s housing. In addition, the accelerometer taught by Pelta clearly operates in a mechanical nature (accelerometer/inclinometer) and an electrical nature (detector (44, 48) and micro-processor (50)), which clearly fulfills the requirements of a “wheel measuring head including a micro-electromechanical accelerometer” as recited in claim 1.

Regarding applicant’s argument on Pelta’s prior art recitation to Senften (US 3,892,042), which indicates that the accelerometer used is a servo-accelerometer that is not a MEMS and therefore, has no micro-machined mechanical components with integrated support electronics thus showing that Pelta’s accelerometer is not necessarily a MEMS device and thereby disproving the Examiner’s inherency arguments is not persuasive. It is pointed out that

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Applicant's arguments are irrelevant because the teachings of Senften were never used or applied against the claimed subject matter. Therefore, at the time of Applicant's invention, the teachings of Pelta and Babala fully disclose the invention as claimed.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

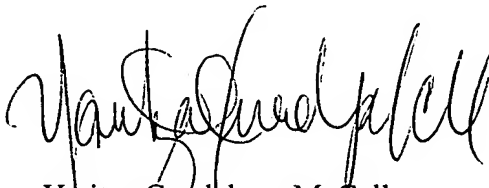
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yaritza Guadalupe McCall whose telephone number is (571)272-2244. The examiner can normally be reached on 8:00 AM - 5:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego F.F. Gutierrez can be reached on (571) 272-2245. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system; contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

YGM
April 19, 2006
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Yaritza Guadalupe-McCall
Primary Examiner